LISTING OF THE CLAIMS:

This listing of claims replaces all prior versions, and listings, of claims in the application:

1: (Cancelled).

2: (Cancelled).

3: (Cancelled).

4: (Currently Amended) ~~The method of claim 1, further comprising:~~

A method comprising:

associating a virtual machine with a processor utilizing a virtual machine identifier;

receiving an interrupt;

determining if the interrupt is associated with a virtual machine identifier that is associated with one or more processors; and

if so, routing the interrupt to the matching processor(s); and

wherein if the interrupt is associated with a virtual machine identifier that is currently not associated with one or more processors,

targeting a virtual machine not currently running on any processor; and

routing the interrupt to a processor running in shared mode and reported as executing the lowest priority task.

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5: (Original) The method of claim 4, wherein associating a virtual machine with a processor utilizing a virtual machine identifier includes:

receiving a communication from the processor that includes a virtual machine identifier; and

storing a processor identifier and the virtual machine identifier in a participant table.

6: (Original) The method of claim 5, wherein receiving a communication from the processor includes utilizing, at least in part, the VM-ID information to optimize system resources and parameters.

7: (Original) The method of claim 5, wherein receiving a communication from the processor that includes a virtual machine identifier occurs when the processor either initiates or resumes execution of a virtual machine indicated by the virtual machine identifier.

8: (Original) The method of claim 7, wherein a virtual control block (VCB)

specifies a virtual machine identifier for each virtual machine, and

stores the virtual machine identifier in an executing processor utilizing a virtual machine control block.

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9: (Original) The method of claim 5, wherein associating a virtual machine with a processor utilizing a virtual machine identifier includes:

receiving a communication from the processor that includes information that denotes whether or not the processor is running in shared or dedicated mode; and

storing the processor mode information in a participant table.

10: (Cancelled).

11: (Currently Amended) ~~The method of claim 1, further including:~~

A method comprising:

associating a virtual machine with a processor utilizing a virtual machine identifier;

receiving an interrupt;

determining if the interrupt is associated with a virtual machine identifier that is associated with one or more processors;

if so, routing the interrupt to the matching processor(s); and

associating an interrupt generating device that is exclusively assigned to a virtual machine with the virtual machine's identifier.

12: (Original) The method of claim 11, wherein associating an interrupt generating device includes storing the virtual machine identifier in a memory element within the device so that any interrupts generated by the device may include the virtual machine identifier.

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13: (Original) The method of claim 11, wherein associating an interrupt generating device includes:

utilizing an interrupt controller, having interrupt input lines, to route all interrupts from the interrupt generating device, and

associating a virtual machine identifier with an input line of the interrupt controller; and wherein the interrupt controller assumes that all interrupts incoming on the associated interrupt input line are associated with the virtual machine identifier.

14: (Cancelled).

15: (Cancelled).

16: (Cancelled).

17: (Currently Amended) ~~The article of claim 14, further comprising instructions providing for:~~

An article comprising:

a machine accessible medium having a plurality of machine accessible instructions, wherein when the instructions are executed, the instructions provide for:

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associating a virtual machine with a processor utilizing a virtual machine identifier;

receiving an interrupt;

determining if the interrupt is associated with a virtual machine identifier that is associated with one or more processors; and

if so, routing the interrupt to the matching processor(s); and

wherein, if the interrupt is not associated with a virtual machine identifier that is currently associated with one or more processors,

targeting a virtual machine not currently running on any processor; and

routing the interrupt to a processor running in shared mode and reported as executing the lowest priority task.

18: (Original) The article of claim 17, wherein the instructions providing for associating a virtual machine with a processor utilizing a virtual machine identifier includes instructions providing for:

receiving a communication from the processor that includes a virtual machine identifier; and

storing a processor identifier and the virtual machine identifier in a participant table.

19: (Original) The article of claim 18, wherein the instructions providing for receiving a communication from the processor includes instructions providing for utilizing, at least in part, the VM-ID information to optimize system resources and parameters.

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20: (Original) The article of claim 18, wherein the instructions providing for receiving a communication from the processor that includes a virtual machine identifier occurs when the processor either initiates or resumes execution of a virtual machine indicated by the virtual machine identifier.

21: (Original) The article of claim 20, further including instructions providing for a virtual control block (VCB)

specifying a virtual machine identifier for each virtual machine, and

storing the virtual machine identifier in an executing processor utilizing a virtual machine control block.

22: (Original) The article of claim 18, wherein the instructions providing for associating a virtual machine with a processor utilizing a virtual machine identifier includes instructions providing for:

receiving a communication from the processor that includes information that denotes whether or not the processor is running in shared or dedicated mode; and

storing the processor mode information in a participant table.

23: (Cancelled).

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24: (Currently Amended) ~~The article of claim 14, further including instructions providing for:~~

An article comprising:

a machine accessible medium having a plurality of machine accessible instructions, wherein when the instructions are executed, the instructions provide for:

associating a virtual machine with a processor utilizing a virtual machine identifier;

receiving an interrupt;

determining if the interrupt is associated with a virtual machine identifier that is associated with one or more processors;

if so, routing the interrupt to the matching processor(s); and

associating an interrupt generating device that is exclusively assigned to a virtual machine with the virtual machine's identifier.

25: (Original) The article of claim 24, wherein the instructions providing for associating an interrupt generating device includes instructions providing for storing the virtual machine identifier in a memory element within the device so that any interrupts generated by the device may include the virtual machine identifier.

26: (Original) The article of claim 14, wherein the instructions providing for associating an interrupt generating device includes instructions providing for:

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utilizing an interrupt controller, having interrupt input lines, to route all interrupts from the interrupt generating device, and

associating a virtual machine identifier with an input line of the interrupt controller; and wherein the interrupt controller assumes that all interrupts incoming on the associated interrupt input line are associated with the virtual machine identifier.

27: (Cancelled).

28: (Cancelled).

29: (Cancelled).

30: (Currently Amended) **An apparatus comprising:**

a plurality of processors:

to execute a plurality of virtual machines having virtual machine identifiers, and

wherein each processor is capable of communicating, to an integrated circuit, the virtual machine identifier of the virtual machine that the processor is currently executing; and

the integrated circuit to steer interrupts to the processor utilizing, at least in part,

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the virtual machine interrupts; and

wherein the integrated circuit is capable of:

associating each processor with a virtual machine identifier, and the associations are stored in a participant table, and

~~The apparatus of claim 29, wherein the integrated circuit is further capable of~~ determining whether each processor is running in shared or dedicated mode.

31: (Cancelled).

32: (Currently Amended) **An apparatus comprising:**

a plurality of processors to execute a plurality of virtual machines having virtual machine identifiers; and

an integrated circuit to steer interrupts to the processor utilizing, at least in part, the virtual machine interrupts; and

~~The apparatus of claim 31,~~ wherein the integrated circuit is capable of:

utilizing, at least in part, the VM-ID information to optimize system resources and parameters;

receiving an interrupt;

determining if the interrupt is associated with a virtual machine identifier that is associated with one or more processors; and

if so, routing the interrupt to the matching processor(s).

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33: (Cancelled).

34: (Currently Amended) **An apparatus comprising:**

a plurality of processors to execute a plurality of virtual machines having virtual machine identifiers;

an integrated circuit to steer interrupts to the processor utilizing, at least in part, the virtual machine interrupts;

~~**The apparatus of claim 33, further including**~~

a virtual control block (VCB) that is capable of:

specifying a virtual machine identifier for each virtual machine, and

storing the virtual machine identifier in an executing processor utilizing a virtual machine control block**; and**

wherein the integrated circuit is further capable of:

if the interrupt is not associated with a virtual machine identifier,

utilizing a virtual control block to steer the interrupt to the appropriate processor.

35: (Currently Amended) **An apparatus comprising:**

a plurality of processors to execute a plurality of virtual machines having virtual machine identifiers;

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an integrated circuit to steer interrupts to the processor utilizing, at least in part, the virtual machine interrupts; and

~~The apparatus of claim 33,~~ wherein the integrated circuit is capable of:

if the interrupt is not associated with a virtual machine identifier,

utilizing a virtual control block to steer the interrupt to the appropriate processor; and

if the interrupt is associated with a virtual machine identifier that is not currently associated with one or more processors,

targeting a virtual machine not currently running on any processor; and

routing the interrupt to a processor running in shared mode reported as executing the lowest priority task.

36: (Cancelled).

37: (Cancelled).

38: (Currently Amended) **An apparatus comprising:**

a plurality of processors to execute a plurality of virtual machines having virtual machine identifiers;

an integrated circuit to steer interrupts to the processor utilizing, at least in part, the virtual machine interrupts; and

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~~The apparatus of claim 28,~~ wherein each processor is capable of:

communicating, to the integrated circuit, the virtual machine identifier of the virtual machine that the processor is currently executing when the processor either initiates or resumes execution of the virtual machine.

39: (Currently Amended) **An apparatus comprising:**

a plurality of processors to execute a plurality of virtual machines having virtual machine identifiers;

an integrated circuit to steer interrupts to the processor utilizing, at least in part, the virtual machine interrupts; and

wherein each processor is capable of:

communicating, to the integrated circuit, the virtual machine identifier of the virtual machine that the processor is currently executing; and

~~The apparatus of claim 28,~~ wherein the integrated circuit is capable of associating an interrupt generating device by:

utilizing an interrupt controller, having interrupt input lines, to route all interrupts from the interrupt generating device, and

associating a virtual machine identifier with an input line of the interrupt controller; and wherein the interrupt controller assumes that all interrupts incoming on the associated interrupt input line are associated with the virtual machine identifier.

40: (Cancelled).

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41: (Cancelled).

42: (Cancelled).

43: (Currently Amended) **A system comprising:**

a plurality of processors to execute a plurality of virtual machines having virtual machine identifiers;

at least one interrupt generating device to transmit an interrupt having a virtual machine identifier; and

an integrated circuit to steer interrupts to the processor utilizing, at least in part, the virtual machine interrupts; and

~~The system of claim 40,~~ wherein the integrated circuit is further capable of determining whether each processor is running in shared or dedicated mode.

44: (Cancelled).

45: (Currently Amended) **A system comprising:**

a plurality of processors to execute a plurality of virtual machines having virtual machine identifiers;

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at least one interrupt generating device to transmit an interrupt having a virtual machine identifier; and

an integrated circuit to steer interrupts to the processor utilizing, at least in part, the virtual machine interrupts; and

~~The system of claim 44,~~ wherein the integrated circuit is capable of:

utilizing, at least in part, the VM-ID information to optimize system resources and parameters;

receiving an interrupt;

determining if the interrupt is associated with a virtual machine identifier that is associated with one or more processors; and

if so, routing the interrupt to the matching processor(s).

46: (Cancelled).

47: (Currently Amended) **A system comprising:**

a plurality of processors to execute a plurality of virtual machines having virtual machine identifiers;

at least one interrupt generating device to transmit an interrupt having a virtual machine identifier;

an integrated circuit to steer interrupts to the processor utilizing, at least in part, the virtual machine interrupts; and

~~The system of claim 46, further including~~ a virtual control block (VCB) that is capable

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of:

specifying a virtual machine identifier for each virtual machine, and

storing the virtual machine identifier in an executing processor utilizing a virtual machine control block; and

wherein the integrated circuit is capable of:

receiving an interrupt;

determining if the interrupt is associated with a virtual machine identifier that is associated with one or more processors;

if so, routing the interrupt to the matching processor(s); and

if the interrupt is not associated with a virtual machine identifier, utilizing a virtual control block to steer the interrupt to the appropriate processor.

48: (Currently Amended) **A system comprising:**

a plurality of processors to execute a plurality of virtual machines having virtual machine identifiers;

at least one interrupt generating device to transmit an interrupt having a virtual machine identifier;

an integrated circuit to steer interrupts to the processor utilizing, at least in part, the virtual machine interrupts; and

~~**The system of claim 46,**~~ wherein the integrated circuit is capable of:

if the interrupt is not associated with a virtual machine identifier,

utilizing a virtual control block to steer the interrupt to the appropriate processor;

if the interrupt is associated with a virtual machine identifier that is not currently associated with

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one or more processors,

targeting a virtual machine not currently running on any processor; and

routing the interrupt to a processor running in shared mode reported as executing the lowest priority task.

49: (Cancelled).

50: (Cancelled).

51: (Cancelled).

52: (Currently Amended) **A system comprising:**

a plurality of processors to execute a plurality of virtual machines having virtual machine identifiers;

at least one interrupt generating device to transmit an interrupt having a virtual machine identifier; and

an integrated circuit to steer interrupts to the processor utilizing, at least in part, the virtual machine interrupts;

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wherein each processor is capable of:

communicating, to the integrated circuit, the virtual machine identifier of the virtual machine that the processor is currently executing; and

~~The system of claim 41,~~ wherein the integrated circuit is capable of associating an interrupt generating device by:

utilizing an interrupt controller, having interrupt input lines, to route all interrupts from the interrupt generating device, and

associating a virtual machine identifier with an input line of the interrupt controller; and

wherein the interrupt controller assumes that all interrupts incoming on the associated interrupt input line are associated with the virtual machine identifier.

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